

Exhibit A

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW HAMPSHIRE

OCADO INNOVATION LTD. and)
OCADO SOLUTIONS LTD.,)
Plaintiffs,) Case No. 1:21-cv-00041-JL
v.)
AUTOSTORE AS and) Hon. Joseph N. Laplante
AUTOSTORE SYSTEM INC.,)
Defendants.)

)

**OCADO'S [PROPOSED] SUPPLEMENTAL RESPONSES TO
CERTAIN OF THE COURT'S MARKMAN HEARING QUESTIONS**

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION
SUBJECT TO PROTECTIVE ORDER**

During the September 29, 2022 *Markman* hearing (“*Markman* Hearing”), the Court asked (i) how the Court should construe claims that are broader than a single embodiment that is described and depicted in the specification; (ii) how certain prior art robots compare to the invention of U.S. Patent No. 10,913,602 (“’602 Patent”), including the large robot that AutoStore identified as “Hognaland” during the *Markman* Hearing (*see* AutoStore’s Claim Construction Presentation at 11), and (iii) how the Court should construe the indefinite article “a” in the “occupy a grid space” limitation. Below, Ocado provides supplemental responses to the Court’s questions, which support the conclusion that the claims of the ’602 Patent should not be restricted to a robot that occupies only a single grid space.¹

I. As a Matter of Law, Patent Claims Should Not Be Construed to Require Features of an Embodiment, Even if the Specification Discloses Only One Embodiment.

During the *Markman* Hearing, the Court observed that the specification of the ’602 Patent focuses on a robot that occupies “substantially only” a single grid space. Against that background, the Court asked the parties how the Court should construe claim language that is broader than a sole, specific embodiment disclosed in the specification. In response, Ocado first acknowledged the obvious: Ocado invented the single-space robot, which is the preferred embodiment of the invention repeatedly described and depicted in the ’602 Patent. Ocado noted, however, that patent claims are not limited by the features of a preferred embodiment—even if the specification discloses only one embodiment. An inventive concept is not co-extensive with the preferred embodiment—which illustrates one way the invention can be implemented—and U.S. patent law

¹ AutoStore also contends that a robot that occupies “less than twice the area” of a grid space—as claimed in U.S. Patent No. 10,961,051 (“’051 Patent”)—should be restricted to a robot that occupies the area of only one grid space. These supplemental responses to the Court’s questions also show why that attempt to re-write the claim language should be rejected.

allows a patentee to claim the full scope of its invention as defined by the claims. The response that Ocado provided at the *Markman* Hearing is consistent with well-established law:

- “[W]e have expressly rejected the contention that if a patent describes **only a single embodiment**, the claims of the patent must be construed as being limited to that embodiment.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc).²
- “Embodiments in the specification—**even if there is only one embodiment**—cannot limit the scope of the claims absent the patentee’s words or expressions of manifest exclusion or restriction.” *Apple Inc. v. Wi-LAN Inc.*, 25 F.4th 960, 967 (Fed. Cir. 2022) (quotations omitted). *See also Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1117 (Fed. Cir. 2004); *JVW Enters., Inc. v. Interact Accessories, Inc.*, 424 F.3d 1324, 1335 (Fed. Cir. 2005).
- “It is improper to read limitations from a preferred embodiment described in the specification—**even if it is the only embodiment**—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) (quotations omitted). *See also Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 726 F.3d 1296, 1301 (Fed. Cir. 2013).
- “The specification need not describe every embodiment of the claimed invention, and the claims should not be confined to the disclosed embodiments—**even when the specification discloses only one embodiment**.” *Woods v. DeAngelo Marine Exhaust, Inc.*, 692 F.3d 1272, 1283 (Fed. Cir. 2012) (citations omitted).
- “It is [] important not to confuse exemplars or preferred embodiments in the specification that serve to teach and enable the invention with limitations that define the outer boundaries of claim scope.” *Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1287 (Fed. Cir. 2010).
- “We have repeatedly held that, **even in situations when only one embodiment is disclosed**, the claims generally should not be narrowed to cover only the disclosed embodiments or examples in the specification.” *Linear Tech. Corp. v. ITC*, 566 F.3d 1049, 1058 (Fed. Cir. 2009). *See also Howmedica Osteonics Corp. v. Wright Med. Tech., Inc.*, 540 F.3d 1337, 1345 (Fed. Cir. 2008); *Saunders Grp. v. Comfortrac, Inc.*, 492 F.3d 1326, 1332 (Fed. Cir. 2007).

Consistent with those precedents, this Court (Laplante, J.) has similarly explained:

[W]hen consulting the specification to clarify the meaning of claim terms, courts must take care not to import limitations into the claims from the specification. It is therefore important not to confuse exemplars or preferred embodiments in the specification that serve to teach and enable the invention with limitations that define the outer boundaries of claim scope.

² All emphasis has been added unless otherwise indicated.

SignalQuest, Inc. v. Ten-Ming Chou, 2015 WL 471008, at *1 (D.N.H. Feb. 4, 2015) (citations and quotation marks omitted).

That cardinal rule applies even when the patentee uses the phrase “the present invention” in connection with an embodiment described in the specification.³ Numerous cases make clear that use of the phrase “the present invention” does not alone establish manifest exclusion or restriction. *See Cont'l Circuits LLC v. Intel Corp.*, 915 F.3d 788, 798 (Fed. Cir. 2019); *Absolute Software, Inc. v. Stealth Signal, Inc.*, 659 F.3d 1121, 1136 (Fed. Cir. 2011) (collecting cases); *Rambus Inc. v. Infineon Techs. AG*, 318 F.3d 1081, 1094 (Fed. Cir. 2003). And in several fact-analogous cases, the Federal Circuit found no disavowal despite the patentee’s use of the phrase “the present invention.” *See, e.g., Voda v. Cordis Corp.*, 536 F.3d 1311, 1320-22 (Fed. Cir. 2008); *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1326 (Fed. Cir. 2008); *Creative Integrated Sys., Inc. v. Nintendo of Am., Inc.*, 526 F. App’x 927, 934 (Fed. Cir. 2013).

The recent case of *Unirac, Inc. v. EcoFasten Solar, LLC*, 2022 WL 2702421 (D. Del. July 12, 2022) may be instructive. In that case, the patentee (i) described “the present invention” as having a certain feature, and (ii) disclosed only embodiments with the feature-in-question. *Id.* at *3. Additionally—unlike the facts presented here—the patentee had used the feature-in-question to distinguish the prior art during prosecution of the patent. *Id.* at *3-4. The court

³ AutoStore asserted certain of its patents against Ocado in proceedings before the U.S. International Trade Commission (“ITC”) in Investigation No. 337-TA-1228. In that Investigation, AutoStore asserted claims from a patent that described “the present invention” and “the inventive vehicle” as being “characterized” by specific features that were included in every depiction and description throughout the specification. (Ex. 1 (U.S. Patent No. 10,093,525).) AutoStore nevertheless argued that the invocation of “the present invention” did not lead to disavowal of claim scope, and the Chief Administrative Law Judge accepted that argument, explaining that disavowal is reserved only for the clearest cases of disclaimer. (See Ex. 2 (ITC Inv. No. 337-TA-1228, Order No. 33) at 18-25.) Thus, AutoStore’s claim that the phrase “the present invention” triggers disavowal is contrary to its opposite position that was adopted by the ITC.

nevertheless concluded that there was no disavowal because of (i) the claim language and the fact that “the patentee knew how to claim” the feature-in-question when that was the intent (as shown by the language used in other claims), and (ii) certain statements in the specification suggested that the feature was not a requirement of the invention. *Id.* at *3. The same is true here.

First, as Ocado demonstrated in its *Markman* hearing presentation for the '602 and '051 Patents (“Ocado’s *Markman* Presentation” at slide 34), when the patentee intended to claim a robot that occupies **only a single** grid space, the patentee knew how to do so expressly and actually did so in other patents within the same patent family. Additionally, in claim 1 of the '602 Patent (when describing stacks of containers), the claim states that “each stack is located within the footprint of **a single grid space.**” Thus, even within the claims of the '602 Patent, the patentee knew how to limit a feature to a single grid space when that was the intent. The patentee intentionally used broader language when describing the features of the robot in the claims of the '602 Patent, which are not limited to a single grid space.⁴

Second, consistent with the precedents described above that found no disavowal of claim scope, the specification of the '602 Patent does not contain expressions of manifest exclusion or restriction that would limit the claims to a robot that occupies only a single grid space:

- The specification states that the invention “increase[s] the number of load handling devices in use at any one time,” and “reduce[s] the size of the load handling devices in order to minimise instances in which the optimum movement path for one device is hindered by the

⁴ During the hearing, AutoStore invited legal error by conflating claim construction (a question of law for the Court) with the question of adequate written description under 35 U.S.C. § 112 (a question of fact for the jury). *See Johns Hopkins Univ. v. 454 Life Science Corp.*, 123 F. Supp. 3d 563, 566 (D. Del. 2015). *See also Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 912, 914 (Fed. Cir. 2004); *Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371, 1375-77 (Fed. Cir. 2007). Through expert testimony and other evidence, Ocado will show that the specification provides adequate written description and enablement for the full scope of the claims of the '602 and '051 Patents, but the sufficiency of the written description should play no role in claim construction, which establishes the “metes and bounds” of the claims against which the adequacy of the written description will be measured.

presence of other devices.” The specification immediately continues: “It is against this background that the present invention has been devised.” (’602 Patent 4:46-62; *see also id.* 5:42-47; 7:65-8:3.) The goal of the invention is achieved by reducing the size of the prior art two-space robot, and there is no statement that (i) limits the reduced-size robot to a single-space robot or (ii) excludes, *e.g.*, a robot that occupies a grid space and a small portion of one adjacent grid space. Exhibit 3 to this submission shows how a skilled artisan could achieve the benefits of Ocado’s invention with a robot larger than a single grid space but smaller than the prior-art two-space robot (at slides 22-38). As shown in Exhibit 3, the space efficiency benefits are substantial even if the robot is larger than a single grid space. That is consistent with the deposition testimony of AutoStore’s expert, Dr. Derby, who testified that the invention’s benefits are realized even with a robot that occupies one grid space and one-half of an adjacent space (*see* Ocado’s *Markman* Presentation at slide 37).

- The patent specification describes that the robot’s “footprint . . . is reduced compared to the cantilever designs shown in FIGS. 3A to 3C and described in NO317366” because “bulky components” are stored “above the container-receiving space.” (’602 Patent 5:32-38.) The specification then describes different embodiments. With reference to “FIGS. 6A and 6B,” the specification describes an embodiment with “all of the significant bulky components” (*e.g.*, batteries and motors) stored in the “upper part of the vehicle” above the container-receiving space. (*Id.* 9:5-33.) The specification describes that embodiment as a single-space robot that takes up the “**minimum** possible amount of space in the X-Y plane.” (*Id.* 9:34-41.)

But that “minimum” sized embodiment is not required. For example, the specification also describes an embodiment, with reference to “FIG. 17,” in which only *some* of the bulky components are stored above the container-receiving space and other bulky components are moved down and placed “within side walls 262 of a lower part 264 of the housing 254, adjacent to a container-receiving space 266 of the device 252.” (*Id.* 11:48-61.) The specification explains advantages of moving some bulky components to the side of the cavity (*i.e.*, it lowers “the centre of gravity of the device 252, thereby increasing its stability and allowing higher acceleration and deceleration”). (*Id.* 11:61-64.) The specification also states that moving bulky components (*e.g.*, batteries) to the side of the robot is a designer’s choice that can improve stability in any embodiment. (*Id.* 12:19-28.)

Although Figure 17 still shows a single-space embodiment, the description necessarily contemplates an embodiment that is, *e.g.*, slightly larger than a single grid space because some bulky components are moved to the side of the container-receiving space instead of above it. That arrangement reduces the size of the robot but not necessarily down to the “minimum” of only a single grid space. This concept was illustrated in Ocado’s *Markman* Presentation (at slides 13-18).⁵

⁵ As shown below, the relevant accused product in this case—AutoStore’s B1 robot—utilizes the invention disclosed in the ’602 Patent, including [REDACTED], which causes the robot to occupy slightly more than one grid space.

- The written description starts with invocation of “[t]he present invention” without any description of a single-space robot. (’602 Patent 1:6-10.) This shows that the patentee used the phrase “the present invention” loosely rather than as a concrete, limiting description of the invention. As shown in the above-cited cases, *see supra* at 2-4, this kind of inconsistent usage typically negates disavowal otherwise suggested by use of the phrase “the present invention.”
- The specification describes a robot that occupies only a single grid space or “substantially only” a single grid space as “advantageous,” signaling that those sizes are preferred embodiments, rather than descriptions that limit the invention as a whole. (See, e.g., ’602 Patent 5:5-6, 5:38-40.)
- The patent specification in several places refers to a robot that “occupies **substantially** only a single grid space” or “substantially a single grid space.” (See, e.g., *id.* 5:5-6, 5:20-21, 7:6-8, 7:22-24, 7:33-35.) AutoStore brushes this language off and contends that “substantially” merely accounts for *de minimis* space taken up by the wheels. But the specification makes that position unsustainable. Specifically, the specification refers to a robot that “occupies a single grid space” (without using “substantially”) as a robot with a footprint “larger than the size of a bin only enough to accommodate the wheels.” (*Id.* 9:34-38.) The modifier “substantially” therefore cannot refer to the wheels, and must refer to at least some degree of extension that causes the robot to encroach on a neighboring grid space. Even the preferred embodiment—a robot that occupies “substantially only” a single grid space—contemplates a robot that is at least slightly larger than a single grid space.

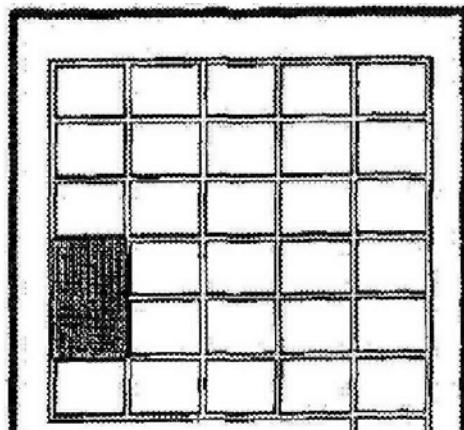
In short, and as shown above, the intrinsic evidence taken as a whole does not come close to showing manifest exclusion or restriction that would limit the claims of the ’602 Patent to a robot that occupies only a single grid space. The plain claim language extends to robots that, *e.g.*, occupy a grid space and part of an adjacent grid space, which (i) accomplishes the benefits of the invention, and (ii) the specification contemplates as an optional design choice. There is no reason to force a narrowing limitation onto that plain claim language, even if the Court concludes that the specification describes and depicts only the preferred single-space robot.

II. The Features of the Prior Art Robots Support the Conclusion That Ocado’s Invention Encompassed More Than a Single-Space Robot

During the *Markman* Hearing, the parties addressed AutoStore’s prior art cantilever robots (“Red Line”) and a large prior-art robot that AutoStore called “Hognaland” (*see* AutoStore’s Claim Construction Presentation at 11). The Court had a number of questions about the prior art robots,

including (i) whether the wheels of two robots could occupy a single rail side-by-side, and (ii) what the “Hognaland” robot looked like “in action.” Below, Ocado provides information about the prior art robots, which (i) shows the practical import of the parties’ dispute (*i.e.*, why AutoStore is trying to limit the claims of the ’602 Patent to only a single-space robot) and (ii) supports the conclusion that Ocado’s invention should not be limited to a single-space robot.

The specification of the ’602 Patent refers to a prior art patent—“Norwegian patent number 317366” (“NO/366”—which discloses cantilever robots shown in Figures 3A to 3C of the ’602 Patent. (’602 Patent 3:6-12.) A copy of NO/366 is Exhibit 4. As shown in the below portion of Figure 1 from NO/366 (an aerial view of a cantilever robot on a grid), the cantilever robots operated on single/single rails such that no two robots could pass side-by-side on the same rail:



This also is shown in photographs of AutoStore’s Red Line system (examples of which are provided below). These rails—“single/single” rails—accommodate the wheels of only one robot, and thus the prior-art robots could not pass each other on an adjacent grid space in any direction, contrary to AutoStore’s statements during the *Markman* Hearing. The answer to the Court’s question of whether the wheels of two robots could pass side-by-side on a single rail is an unequivocal “no,” which is made plain by the images below.



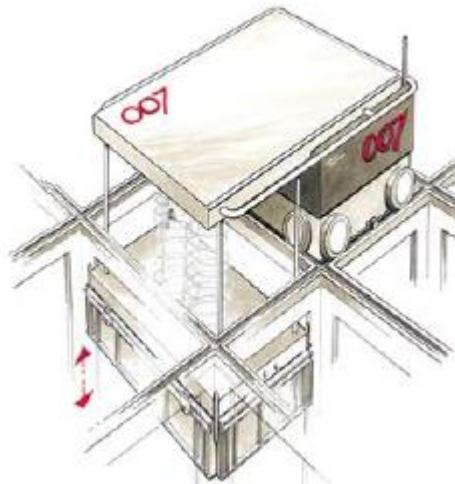
This prior art design also is shown in an excerpt from the witness statement of AutoStore's Director of R&D, Ole Alexander Mæhle, which was submitted in the parallel ITC proceeding (which AutoStore initiated against Ocado in October 2020 and which AutoStore lost on all patents and claims in December 2021 and March 2022). (See Ex. 5 (Mæhle Witness Statement) at Q/A 28.) An image from that witness statement, showing "single/single" rails, is below. Videos of AutoStore's early cantilever robots (submitted herewith as Exhibits 6 and 7) also show the prior

⁶ *The Autostore System*, JACOB HATTELAND COMPUTER AS at 4, https://web.archive.org/web/20060511144246fw_/http://www.hatteland.com/files/jhc/AutoStore%20-%20Brosjyre.pdf.

⁷ *An introduction to the AutoStore system*, JACOB HATTELAND COMPUTER RS at 8 (2004), https://web.archive.org/web/20060511144345fw_/http://www.hatteland.com/files/jhc/AutoStore%20Concept%20Ver%2001.10a%20-%20Commercial.pdf.

⁸ *AutoStore / Goods to Person Order Fulfillment*, BASTIAN SOLS., <https://www.bastiansolutions.com/solutions/technology/goods-to-person/autostore/> (last visited Oct. 8, 2022).

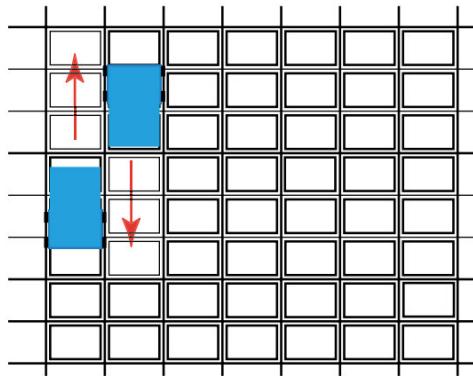
art “single/single” configuration. Additionally, the images and animations at slides 1-5 of Exhibit 3 show the space limitations of the prior art design.



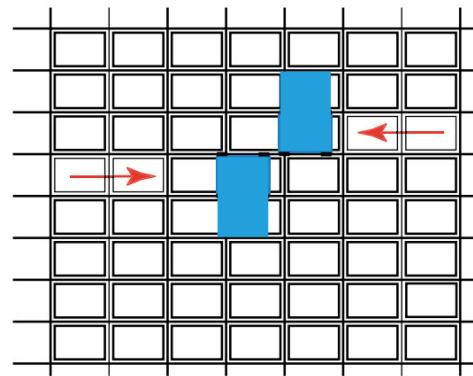
9

As AutoStore admitted in the document cited in Mr. Mæhle’s witness statement, robots operating on single-single rails “can not pass each other [] in [the] X direction” and “can not pass each other in the Y direction” if the cantilever arms are facing opposite directions (in addition, the cantilever arm obstructs an entire grid space on one side of the robot):¹⁰

Two robots can not pass each other sideways in X direction, as the wheels would collide.



Two robots can not pass each other in the Y direction if the lift on both robots is facing outwards.



⁹ This is a color version of the black and white image included Mr. Mæhle’s witness statement, which can be found at https://web.archive.org/web/20060511144345fw_/http://www.hatteland.com/files/jhc/AutoStore%20Concept%20Ver%20001.10a%20-%20Commercial.pdf at 8.

¹⁰ *Id.* at 15.

More recent versions of AutoStore's Red Line system operate with "single/double" rails, and as stated on the current version of AutoStore's website,¹¹ "robots can pass each other in 1 direction," i.e., on the double rail side but not on the single rail side. That is true because the "double" rail in one direction allows the wheels of two robots to pass adjacent to each other. An image from the current version of AutoStore's website (below) shows the "single/double" rails.



This “single/double” configuration also is depicted at slides 6-12 of Exhibit 3. As shown in Exhibit 3, two cantilever robots passing in one X-direction on “single/double” rails block access to 4 or 5 grid spaces, and passing in the perpendicular Y-direction blocks access to 4 grid spaces. The system with single/double rails has greater freedom for route planning (because robots now can pass on adjacent grid spaces in one direction) and it is more space efficient.

As shown in a December 2012 Norwegian patent application, AutoStore (formerly known as Jakob Hatteland Logistics) developed a robot for the Central Bank of Russia (“CBR”), which is the large robot that AutoStore referred to as “Hognaland” during the *Markman* Hearing. ■

¹¹ *The Grid*, AUTOSTORE, <https://www.autostoresystem.com/system/grid> (last visited October 5, 2022).

12 *Id.*

[REDACTED]. (See Ex. 8 (Apr. 2, 2010 E-mail from M. Kutsenko to U. Grünbeck re “Inquiry from EVS, Russia”); Ex. 9 (July 5, 2010 E-mail from S. Hjorteland to M. Kutsenko re “CBR – development”); Ex. 5 (Mæhle Witness Statement) at A69; Ex. 10 (Bekken Dep. Tr.) at 66:8-13 (“[REDACTED]”))

[REDACTED]
[REDACTED]
[REDACTED”.) AutoStore could not use its existing Red Line cantilever robots because [REDACTED] (Ex. 5 (Mæhle Witness Statement) at A69-70; *see also* Ex. 10 (Bekken Dep. Tr.) at 66:15-67:7.)

Compared to the Red Line robots, the CBR Robot [REDACTED]

[REDACTED]
[REDACTED]. (See, e.g., Ex. 11 (ITC Hr’g Tr.) at 104:8-25 (Mæhle); Ex. 12 (Sept. 23, 2011 Presentation re “AutoStore solution for CBR”) at -281.) As one contemporaneous AutoStore presentation explained, the CBR robot [REDACTED]
[REDACTED]
[REDACTED]. (Ex. 13 (Nov. 30, 2011 Presentation re “Project CBR”) at -190.)¹³ As shown in the below image (Ex. 16 at 7), the CBR “Hognaland” robot was a large and bulky robot that blocked at least part of three grid spaces when retrieving a storage container.

¹³ The CBR robot was configured [REDACTED]. (Ex. 13 at -190.) In recent IPR institution decisions, the PTAB has interpreted AutoStore’s patents pertaining to the CBR robot as (i) allowing for a robot with lateral extensions that occupy less than 1/2 of each adjacent grid space, but (ii) not disclosing a robot that eliminates the lateral extension on either side, which creates the encroachment on two adjacent grid spaces. (See Ex. 14 (IPR2022-00673, PTAB Decision Granting Institution on the ’051 Patent) at 20-21, 29-31; Ex. 15 (IPR2022-00443, PTAB Decision Denying Institution on the ’602 Patent) at 12-14, 16-17, 22-24.) With regard to the current issue, the important point is (i) AutoStore’s CBR patents disclose putting bulky components to the side of the container-receiving instead of above that space (there is no disclosure of putting bulky components above the container-receiving space), and (ii) the robot necessarily obstructs **three** grid spaces.



A copy of the first U.S. patent pertaining to the CBR or “Hognaland” robot—U.S. Patent No. 9,422,108 (“’108 Patent”)—is provided as Exhibit 17. As shown in the specification of the ’108 Patent, “space efficiency” is mentioned only in the context of placing one set of four wheels fully within the vehicle body, which eliminates “lateral extensions” otherwise caused by the wheels if they extend outside the vehicle. (’108 Patent 3:57-67.) The patent otherwise focuses on stability, *e.g.*, for lifting and transporting heavy containers. Colorized copies of Figure 9 (an aerial top-down view of the CBR or “Hognaland” robot on single/double rails) and Figure 3 from the ’108 Patent show the large size of the robot and its relative inefficiency with regard to use of space.

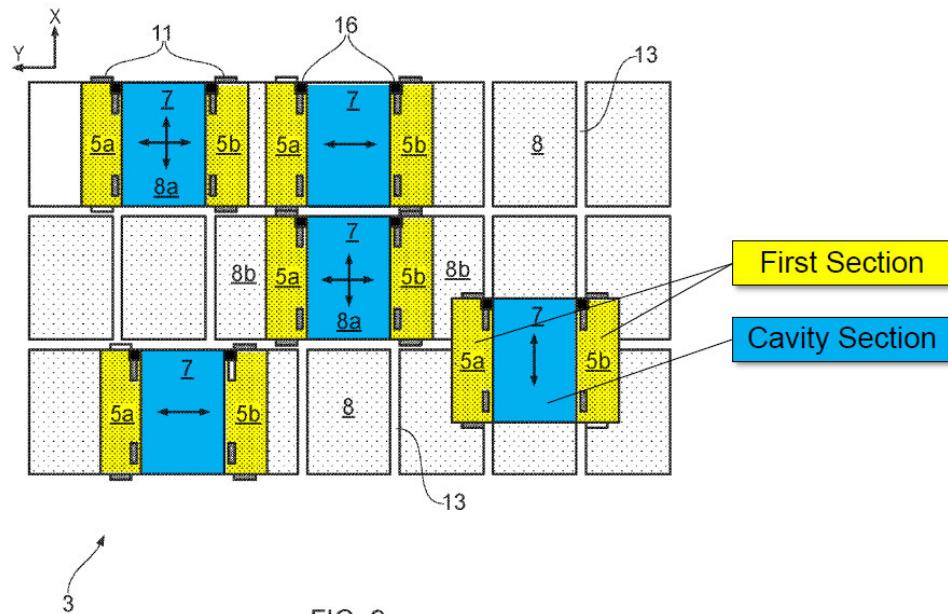


FIG. 9

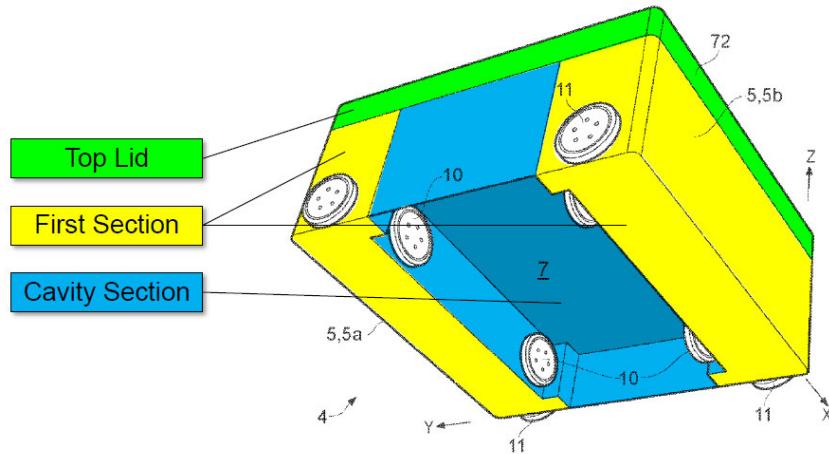


FIG. 3

As shown on slides 13-16 of Exhibit 3, the CBR robot was not an improvement over the cantilever Red Line robot when it came to space efficiency (and that makes sense because the purposes was to provide to the Central Bank of Russia a robot with [REDACTED] [REDACTED]). Even on single/double rails, the CBR robots block access to five grid spaces when two robots pass in one X-direction and six grid spaces when they pass in the perpendicular Y-direction. In terms of space efficiency, the CBR robot was worse than the prior-art.

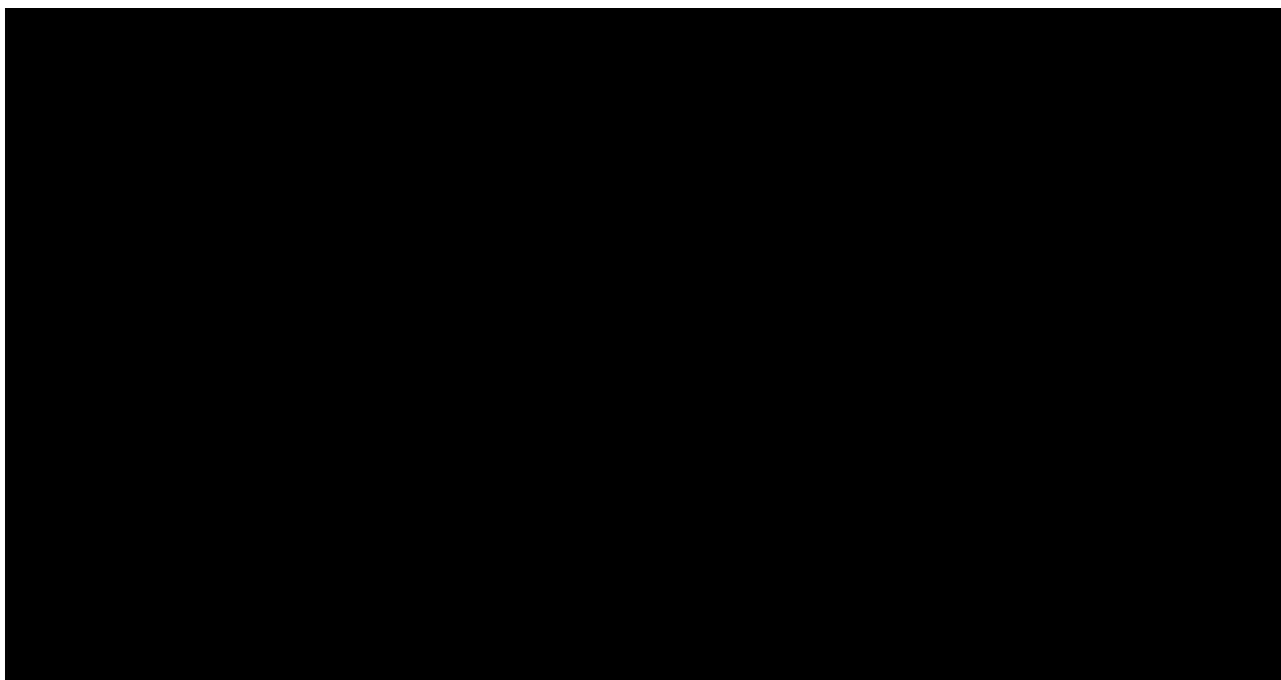
[REDACTED] (Ex. 11 (ITC Hr'g Tr). at 107:9-15 (Mæhle)), [REDACTED]. (Ex. 18 (May 7, 2014 Minutes of Meetings of AutoStore Change Control Board) at -079; Ex. 11 (ITC Hr'g Tr.) at 108:13-17 (Mæhle).) Like the single-space robot embodiment disclosed in Ocado's '602 Patent, [REDACTED]. (Ex. 19 (Austrheim Dep. Tr.) at 31:21-32:10; Ex. 10 (Bekken Dep. Tr.) at 145:3-10.) [REDACTED]

[REDACTED] (Ex. 19 (Austrheim Dep. Tr.) at 31:9-14.) [REDACTED]
 [REDACTED]
 [REDACTED]. (*Id.* at 49:3-11, 43:7-19.) [REDACTED]
 [REDACTED]

[REDACTED]. (Ex. 10 (Bekken Dep. Tr.) at 141:18-143:18; *see also* Ex. 18 at -079.) The space and movement efficiency of a single-space robot is depicted in Exhibit 3 at slides 17-21.

[REDACTED], AutoStore developed the R8 robot, which AutoStore later marketed as B1 (the robot accused of infringement in this case). (Ex. 10 (Bekken Dep. Tr.) at 37:9-38:1) As Mr. Mæhle acknowledged in his ITC trial testimony,

[REDACTED]
[REDACTED]
[REDACTED]. (Ex. 11 (ITC Hr'g Tr.) at 102:21-103:8 (Mæhle).) Mr. Mæhle repeatedly testified that the B1 robot [REDACTED] (Ex. 5 (Mæhle Witness Statement) at A54, 99, 102, 107, 123.) Mr. Mæhle also testified that [REDACTED]
[REDACTED]. (Ex. 11 (ITC Hr'g Tr.) at 104:13-21 (Mæhle).)



AutoStore's decision to make the B1 robot slightly larger than a single grid space—█
 █—was simply a designer's choice, which allowed AutoStore to █
 █. (Ex. 10 (Bekken Dep. Tr.) at 38:2-40:10.) That design is consistent with an embodiment of Ocado's invention suggested in the specification of the '602 Patent—describing Figure 17—that has most bulky components above the container-receiving space, but has at least one bulky component located to the side of that space, which creates a lower center of gravity. *See* '602 Patent 5:32-38.

Moreover, a robot that occupies “slightly more” than a single grid space realizes the space efficiency benefits of Ocado's invention. That is shown on slides 17-31 of Exhibit 3, which (i) demonstrate the space efficiency benefits of single-space robots (slides 17-21) operating on Ocado's double,double rails, and (ii) demonstrate that robots occupying “slightly more” than a single space, operating on Ocado's double,double rails, achieve similar benefits (slides 22-31).

As shown in Exhibit 3, robots slightly larger than a single space operating on double,double rails can pass each other on directly adjacent grid spaces in both the X-direction and Y-direction, which provides greater flexibility for path planning. When two robots pass each other in one X-direction they block access to only three grid spaces, and when they pass in the perpendicular Y-direction, they block access to four grid spaces. In terms of space efficiency, that is an improvement over the two-space cantilever robot design (which blocked access to 4 or 5 spaces when passing in the X-direction) and a substantial improvement over the CBR or “Hognaland” robot (which blocked access to 5 spaces when passing in the X-direction and blocked access to 6 spaces when passing in the Y-direction). Moreover, as shown on slide 30 of Exhibit 3, the reduced size robot (which occupies slightly more than one grid space) also improves path planning

relative to the prior-art cantilever and CBR robots in the same way that a single-space robot improves path planning. That is because the reduced size robot will block access to an adjacent grid space for a substantially shorter amount of time relative to the prior art robots, as shown in Exhibit 3. Although a single-space robot has even greater space and path planning efficiency (*i.e.*, robots passing in any direction block two grid spaces), robots that occupy “slightly more” than a single grid space still realize the benefits of Ocado’s invention, and those benefits exist because of the inventive design disclosed in the specification of the ’602 Patent (*i.e.*, bulky components placed above the cavity to reduce the size and lateral footprint of the robot). AutoStore’s expert, Dr. Derby, flatly admitted that a robot that occupies part of an adjacent grid space still realizes the benefits of the invention. (*See* Ocado *Markman* Ex. 20 (Derby Dep. Tr.) at 138:6-24.)

The plain claim language of the ’602 patent—encompassing a single-space robot and a robot slightly larger than a single grid space—is consistent with the disclosures in the specification and consistent with the full scope of the advancement that Ocado contributed to the art.

III. The Indefinite Article “a” in the “Occupies a Grid Space” Limitation

During the *Markman* Hearing, the Court also asked how it should construe the indefinite article “a” in the “occupies a grid space” limitation of the ’602 Patent. As Ocado explained during the *Markman* Hearing, the Court should read that limitation to require that the robot occupy *at least* one grid space. During the *Markman* Hearing, AutoStore argued that the indefinite article “a” does not mean one or more. Yet only a few days later (October 4, 2022), AutoStore took a very different position in its brief to the Federal Circuit regarding its losses in parallel ITC proceedings. AutoStore, quoting several Federal Circuit decisions, told the Federal Circuit:

This Court has repeatedly emphasized that an indefinite article “a” or “an” in patent claims carries the meaning of “one or more.” This principle is best described as a rule, rather than merely as a presumption or even a convention. The exceptions to this rule are extremely limited: a patentee must “evince a clear intent” to limit “a”

or “an” to “one.” The necessary intent exists *only* where the language of the claims themselves, the specification, or the prosecution history *necessitate* a departure from the rule.

(Ex 20 (AutoStore Federal Circuit Br.) at 28-29 (citations and quotation marks omitted; emphasis in the original).) Applying that argument here, the “occupy a grid space” limitation should not be construed to mean that the robot occupies only one grid space, but instead should be construed to require that the robot occupy at least one grid space but less than one full adjacent grid space (*i.e.*, a reduced size relative to the prior-art cantilever robot).¹⁴

Moreover, if the Court construes “occupy a grid space” to mean that the robot occupies only one grid space, several claim limitations become meaningless verbiage, which is disfavored. *See Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006); *Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1257 (Fed. Cir. 2010); *Cat Tech LLC v. TubeMaster, Inc.*, 528 F.3d 871 (Fed. Cir. 2008). A single-space robot necessarily will meet the No Extension¹⁵ and No Obstruction¹⁶ Limitations, leaving those limitations with nothing to add to the claims. Indeed, the only reasonable way to read the claims—such that all of the limitations have

¹⁴ During the *Markman* Hearing, Ocano stated that there is no dispute between the parties that the claimed robot must occupy a grid space and less than an entire adjacent grid space (by contrast to the prior art cantilever robot that occupied two full adjacent grid spaces), and Ocano stipulated that the Court’s construction could clarify that the robot must occupy at least one grid space and less than one adjacent grid space. There is no dispute on that issue, and the dispute is only with respect to AutoStore’s attempt to restrict the claims to a robot that occupies only one grid space (*i.e.*, the robot cannot even slightly encroach into an adjacent grid space). That attempt should be rejected.

¹⁵ The No Extension Limitation is the limitation that “a side of the external housing facing the Y-direction extending no further, in the Y-direction, than the first set of wheels on that side of the load handling device, and a side of the external housing facing the X-direction extending no further, in the X-direction, than the second set of wheels on that side of the load handling device.”

¹⁶ The No Obstruction Limitation is the limitation that the load handling device “will not obstruct a load handling device of the multiplicity of load handling devices occupying or traversing an adjacent grid space in the X-direction and will not obstruct a load handling device of the multiplicity of load handling devices occupying or traversing an adjacent grid space in the Y-direction.”

meaning—is that the claimed robot can occupy ***more than*** a single grid space (*e.g.*, 1.2 grid spaces), but the robot design must not create an extension beyond the wheels or cause an obstruction in at least one X-direction and one Y-direction. The “occupy a grid space” limitation does independent work because it excludes robots ***smaller*** than one grid space (*e.g.*, a robot that occupies half of a grid space could meet the No Extension and No Obstruction Limitation, but it could never meet the “occupy a grid space” limitation). Any other reading that forces a single-space requirement onto the claims renders much of the claim language mere descriptive verbiage.

Finally, although Ocado has provided the above information to give the Court more comprehensive answers to its questions, Ocado respectfully believes that it bears repeating that AutoStore has the burden to prove disavowal, and that burden never shifts to Ocado. That is one of the heaviest burdens in U.S. patent law, and it requires AutoStore to show clear and unmistakable disavowal of claim scope through words of manifest exclusion or restriction. AutoStore has not come close to meeting that burden and the claims of the '602 Patent should be given their full scope according to the plain claim language.

Date: October 12, 2022

Respectfully submitted,

/s/ Henry C. Quillen

Henry C. Quillen
New Hampshire Bar No. 265420
WHATLEY KALLAS, LLP
159 Middle Street, Suite 2C
Portsmouth, New Hampshire
Tel: (603) 294-1591
Fax: (800) 922-4851
Email: hquillen@whatleykallas.com

Garrard R. Beeney
Marc De Leeuw
Dustin F. Guzior
Stephen J. Elliott
Laurie N. Stempler
Alexander N. Gross
Mark C. Bennett
Austin P. Mayron
Navraj S. Dhillon
Admitted pro hac vice
SULLIVAN & CROMWELL LLP
125 Broad Street
New York, New York 10004
Tel: (212) 558-4000
Fax: (212) 558-3588
Email: Ocado_DNH@sullcrom.com

*Counsel for Plaintiffs Ocado Innovation Ltd.
and Ocado Solutions Ltd.*